MASTER

XXXIX

Candlemas Day

Introduction

One of the well-known country sayings regarding weather forecasts is:-

"If Candlemas Day be fair and bright,
Winter will have another fight.
If Candlemas Day brings cloud and rain,
Winter is gone and won't come again."

It was decided to test this against the records for Kew.

Method

The severity of the weather to come was, for simplicity, judged by the mean monthly temperature for February. Between the years 1931-1960,

9 Februarys had means below 38°F - termed COLD,
12 Februarys fell in the range 38-42°F - termed AVERAGE,
9 Februarys had means above 42°F - termed MILD.

The weather of Candlemas Day (February 2nd) was judged by the observations at Kew of mean temperature, rainfall, sunshine and general wind direction.

Results

(a) Fair and bright.

Defining fair and bright as a day without measurable rain and with three hours or more of bright sunshine, it was found:-

	February Mean Temperatures		
	Cold	Average	Mild
Candlemas Day "fair and bright"	3 (50%)	3 (50%)	0
any other weather	6 (25%)	9 (37½%)	9 (37½%)

As in 30 years, February has never been a mild month at Kew after a fair and bright Candlemas Day, the couplet has had some justification.

(b) Clouds and rain.

'Clouds and rain' was defined as having less than 2 hours sunshine and more than 0.04 ins. of rain. The results were:-

	February Mean Temperatures		
	Cold	Average	Mild
Candlemas Day, clouds and rain	3 (27%)	3 (27%)	5 (46%)
any other weather	6 (32%)	9 (47%)	4 (21%)

This record is not quite so good but a forecast of a mild month would have been correct about 1 year in 2 as against 3 years in 10 in terms of "normal" expectation.

Further Comments

The usual explanation of the adage is that "fair and bright" implies winds from the east, and "cloud and rain" implies westerly weather. If we divide the 30 Candlemas Days according to whether the wind lay in the N-E-SE sector or the S-W-NW sector we find:-

	February Mean Temperatures		
	Cold	Average	Mild
Candlemas Day, wind N to SE	8 (67%)	3 (25%)	1 (8%)
wind S to NW	1 (6%)	9 (50%)	8 (44%)

The difference in pattern here is quite striking and suggests that general wind directions are liable to be very persistent at this time of the year, for in winter the mean temperature is largely determined by the source of the air and not by insolation during the day.

This suggests that the temperature on Candlemas Day might serve as a useful indicator. The records show:-

	February Mean Temperatures		
	Cold	Average	Mild
Candlemas Day temperature			
below 36°F	6 (67%)	2 (22%)	1 (11%)
36-41°F	0	4 (100%)	0
above 41°F	3 (18%)	6 (35%)	8 (47%)

Combining these two (wind and temperature) tables we find:-

	February Mean Temperatures		
	Cold	Average	Mild
Candlemas Day cold and easterly	6	1	1
cold and westerly	2	0	0
mild and easterly	0	1	0
mild and westerly	1	6	8

(all days with average temperatures on Candlemas Day were followed by average Februarys).

Numerical Analysis

A parameter was chosen by adding one fifth of the mean temperature at Kew on Candlemas Day to the figure 33 when the wind was between S and NW and 31 when it was between N and SE. When this parameter was greater than 41 there followed 11 mild, 3 average and only 1 cold February. When it was less than 41 there followed 3 mild, 3 average and 9 cold Februarys.

Conclusions

Despite the tendency to regard all such venturesome sayings with due suspicion, it appears that this particular one would not have been entirely misleading during the last 30 years.

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